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L7: Entry 1 of 1   File: USPT   Nov 14, 2000

DOCUMENT-IDENTIFIER: US 6148090 A
TITLE: Apparatus and method for providing map information in image form

CLAIMS:

5. The apparatus for providing map information according to claim 3, wherein said information extraction means extracts the necessary passing point information which is on the optimum route according to calculation of the route of shortest required time between at least two points on the map data.

15. The method for providing map information according to claim 13, wherein said extracting step extracts the necessary passing point information which is on the optimum route according to calculation of the route of shortest time required between at least two points on the map data.

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L5: Entry 1 of 1   File: USPT   Nov 14, 2000

US-PAT-NO: 6148090
DOCUMENT-IDENTIFIER: US 6148090 A

TITLE: Apparatus and method for providing map information in image form

DATE-ISSUED: November 14, 2000

INVENTOR-INFORMATION:

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NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
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APPL-NO: 08/966944   [PALM]
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FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	08-306790	November 18, 1996

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US-CL-ISSUED: 382/113; 382/305, 701/202
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701/212

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected   Search ALL   Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5113185	May 1992	Ichikawa	340/995
☐	5168452	December 1992	Yamada et al.	364/444
☐	5378969	January 1995	Haikawa	318/568.12

☐	5471205	November 1995	Izawa	340/995
☐	5559707	September 1996	DeLorme et al.	364/443
☐	5638116	June 1997	Shimoura et al.	382/103
☐	5802492	September 1998	DeLorme et al.	701/200
☐	5832406	November 1998	Iwami et al.	701/202
☐	5874905	February 1999	Nanba et al.	430/995
☐	5974357	October 1999	Poonsaengsathit et al.	701/210
☐	5982301	November 1999	Ohta et al.	340/995

OTHER PUBLICATIONS

U.S. Patent Application No. 08/963,697, filed Nov. 4, 1997, Narioka.
O'Leary, "Mapquest and Maps On Us: Top Web Map Services," Online, vol. 21, No. 5,
Sep./Oct. 1997, pp. 56-58.
"Geosystems' MapQuest Unveils the Most Customizable Driving Directions Available on
the Web," Geosystems Global Corporation press release, May 27, 1997, located at
URL: http://www.geosys.com/cgi-bin/genobject/pr.sub.- MQcustdirections/tig75b5.

ART-UNIT: 271

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ABSTRACT:

An apparatus for providing map information includes a route calculating module for
extracting crossing information on a map, a navigation guidance generating module
for generating images near the crossing extracted and a rally map generating module
for disposing the generated images near the crossing in fixed sequence, and is
constructed to output the images of the crossing disposed in the fixed sequence.
Therefore, even if a personal computers are not provided with the same software and
a navigation apparatus made by the same manufacturer and a portable computer are
not carried, it is able to provide the apparatus for providing map information that
is possible to provide or use easily to understand searched route information.

21 Claims, 5 Drawing figures